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EXAMINER
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2621

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

**MAILED**

**OCT 13 2006**

**Technology Center 2600**

Application Number: 09/924,322  
Filing Date: August 08, 2001  
Appellant(s): FRANCOIS ET AL.

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Jack Schwartz  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 7/20/06 appealing from the Office action mailed 3/15/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (6,259,741) in view of Lim (6,333,952). Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (6,259,741) and Lim (6,333,952) in view of Kato (5,701,164).

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6333952	LIM ET AL	12-2001
6,259,741	CHEN ET AL	7-2001
5,701,164	KATO	12-1997

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (6,259,741) in view of Lim (6,333,952).

Regarding claims 1, 7 and 8, Chen discloses a process for the format conversion of an image sequence employing video data coded on the basis of a structure of pixel groups (see col.3, ln.32-35 and fig.3, note format conversion goes from pixel groups 4:2:2 to 4:2:0), wherein, for a coded pixel group to be converted, if the decoding mode is of the "inter" type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group (col.11, ln.9-14; fig.3, note intra coding mode or inter coding mode is determined, and if inter coding mode is used, switch 325 is activated to pass image data

Art Unit: 2621

to adder 330 and switch 327 is activated to pass image data to adder 345 so as to perform conversion by copying a converted pixel group of a preceding image, preceding image compensated in chroma compensators 320 and 325, linked by motion vector MV associated with the coded pixel group 4:2:2).

Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim specifically teaches where there is a first step of decoding the coded data and then the second step of converting the data (fig.9, note element 92 discloses the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display (Lim col.5, ln.1-3).

Regarding claim 2, Chen discloses wherein if the motion vector associated with the pixel group is null, the conversion is performed by recopy of the co-located pixel group and, if the motion vector is different from zero, the conversion is performed by motion compensation in a preceding converted image (col.11, ln.6-14 and fig.3, if pixel group is null or zero, the conversion is done by sending the co-located pixel group, and if the motion vector is non-zero, then conversion is performed by motion compensation 320 and 325).

Art Unit: 2621

Regarding claim 3, Chen discloses the image data is coded by MPEG and coding block pattern (CBP) is used for identifying the type of macroblock (col.4, ln.34-38 and col.8, ln.38-41).

Regarding claims 5 and 6, Chen discloses the conversion being supplemented with a simple mathematical operation applicable at the decoded pixel group level to modify the display (fig.3, note decoded pixel group is mathematically applied through the inverse quantization 310 and inverse discrete cosine transformation 315, then the output of element 315 is added with offset result from switch element 325).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (6,259,741) and Lim (6,333,952) in view of Kato (5,701,164).

Regarding claim 4, Chen discloses the image data is coded by MPEG and identification of macroblock type (col.4, ln.34-38 and col.8, ln.38-41). Chen and Lim do not specifically disclose the coding mode is determined from the "skipped macroblock" or "uncoded" mode. However, Kato teaches the coding mode is determined from the "skipped macroblock" or "uncoded" mode (col.24, ln.35-53). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Kato, as a whole, for implementing a simpler, less complex process of accurately determining the coding mode so as to produce clear, high quality images (Kato col.12, ln.38-55).

#### **(10) Response to Argument**

Regarding the second paragraph on page 7 of appellant's arguments, appellant states that there must be an establishment of factual basis to support the legal

Art Unit: 2621

conclusion of obviousness, that there must be a reason why one of ordinary skill in the art would have been led to modify the prior art, and a need to show prima facie case of obviousness. The examiner respectfully disagrees. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The reasons for rejecting the appealed claims are shown in the rejection above, and also will be reasonably elaborated below.

**Claims 1-3 and 5-6**

Regarding lines 11-16 on page 8 of appellant's arguments about claim 1, appellant contends that Chen does not disclose "a second step of converting of the decoded data, wherein, for a coded pixel group to be converted, if the decoding mode is of the "inter" type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group". The examiner respectfully disagrees. Chen's column 11, lines 9-14 teach the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the

Art Unit: 2621

switch 325 is activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Thus, Chen teaches "if the mode of coding used is of the 'inter' type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group."

Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3. Thus, the combination of Chen and Lim teaches "a second step of converting of the decoded data, wherein, for a coded pixel group to be converted, if the decoding mode is



Art Unit: 2621

of the "inter" type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group".

Regarding lines 5-7 on page 9 of appellant's arguments, appellant states that Chen does not disclose "a second step of converting of the decoded data". The examiner respectfully disagrees. Chen discloses the format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Regarding lines 9-11 on page 10 of appellant's arguments, appellant asserts that Chen fails to disclose copying a group of pixels under the first view of the function of adder 345 and fail to disclose copying a group of decoded pixels under the second view of the function of the adder 345. The examiner respectfully disagrees. Chen's column

Art Unit: 2621

11, lines 9-14 teach the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the switch 325 is activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0.

Regarding lines 18-22 on page 10 of appellant's arguments, appellant argues that Chen and Lim are both fundamentally different from the present invention. The examiner respectfully disagrees. Both Chen and Lim pertain to the implementation of the MPEG video encoding/decoding environment, as well as the present invention that also pertains to the same MPEG video encoding/decoding environment.

Regarding line 23 on page 10 to line 4 on page 11 of appellant's arguments, appellant argues that Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

Art Unit: 2621

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Furthermore, both Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

Regarding pages 11-12 of appellant's arguments, appellant again argues reasons for why Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3. In addition, both Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

Dependent claims 2, 3, 5 and 6 are rejected for similar reasons as explained for independent claim 1.

**Claim 7**

Regarding lines 1-6 on page 13 of appellant arguments about claim 7, appellant asserts that Chen does not disclose "if for the decoding of a pixel group to be converted an error of transmission of the coded data brings about an error masking mode equivalent to a decoding of the inter type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group". The examiner respectfully disagrees. In column 11, lines 9-14, Chen teaches the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the switch 325 is activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Thus, Chen teaches "if for the decoding of a pixel group to be converted an error of transmission of the coded data brings about an error masking mode equivalent to a decoding of the inter type with

Art Unit: 2621

no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group.”

Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim’s figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim’s column 5, lines 1-3.

Thus, Chen is fundamentally similar to the present invention because Chen and the present invention pertain to the same MPEG video encoding/decoding environment. Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

Regarding lines 19-21 on page 13 of appellant’s arguments, appellant states that Chen does not disclose “a second step of converting of the decoded data”. The examiner respectfully disagrees. Chen discloses the format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded

Art Unit: 2621

data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Regarding lines 9-10 on page 14 of appellant's arguments, appellant argues that Chen does not disclose "a second step of converting of the decoded data" in claim 7. The examiner respectfully disagrees. Chen discloses the format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an

Art Unit: 2621

improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Regarding lines 22-24 on page 14 of appellant's arguments, appellant asserts that Chen fails to disclose copying a group of pixels under the first view of the function of adder 345 and fail to disclose copying a group of decoded pixels under the second view of the function of the adder 345. The examiner respectfully disagrees. Chen's column 11, lines 9-14 teach the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the switch 325 is activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0.

Regarding lines 7-11 on page 15 of appellant's arguments, appellant argues that Chen and Lim are both fundamentally different from the present invention. The examiner respectfully disagrees. Both Chen and Lim pertain to the implementation of the MPEG video encoding/decoding environment, as well as the present invention that also pertains to the same MPEG video encoding/decoding environment.

Regarding lines 12-17 on page 15 of appellant's arguments, appellant asserts that Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Furthermore, both Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

Regarding line 18 on page 15 to the last line on page 16 of appellant's arguments, again, appellant argues that Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one



Art Unit: 2621

of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3. In addition, both Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

**Claim 8**

Regarding lines 10-14 on page 17 of appellant's arguments, appellant states that Chen does not disclose "in the case where the complimentary data pertaining to a pixel group and to a given resolution have zero value, this pixel group for the converted image of given resolution is obtained from a group of converted pixels of the image of lower resolution" in claim 8. The examiner respectfully disagrees. In column 11, lines 9-14, Chen teaches the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the switch 325 is activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image

Art Unit: 2621

data enters element 305 as image data from one resolution of 4:2:2, and, the image data exits element 395 as image data to another resolution 4:2:0. Thus, Chen teaches "in the case where the complimentary data pertaining to a pixel group and to a given resolution have zero value, this pixel group for the converted image of given resolution is obtained from a group of converted pixels of the image of lower resolution".

Thus, Chen is fundamentally similar to the present invention because Chen and the present invention pertain to the same MPEG video encoding/decoding environment.

Regarding lines 6-8 on page 18 of appellant's arguments, appellant states that Chen does not disclose "a second step of converting of the decoded data". The examiner respectfully disagrees. Chen discloses the format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Regarding lines 20-21 on page 18 of appellant's arguments, appellant argues that Chen does not disclose "a second step of converting of the decoded data" in claim 8. The examiner respectfully disagrees. Chen discloses the format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Regarding lines 10-13 on page 19 of appellant's arguments, appellant asserts that Chen fails to disclose obtaining a group of previously converted pixels of lower resolution under the first view of the function of adder 345 and fail to disclose converting a group of decoded pixels under the second view of the function of adder 345. The examiner respectfully disagrees. Chen's column 11, lines 9-14 teach the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the switch 325 is

activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from the *first view* 4:2:2 to the *second view* 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0.

Regarding lines 20-24 on page 19 of appellant's arguments, appellant argues that Chen and Lim are both fundamentally different from the present invention. The examiner respectfully disagrees. Both Chen and Lim pertain to the implementation of the MPEG video encoding/decoding environment, as well as the present invention that also pertains to the same MPEG video encoding/decoding environment.

Regarding lines 1-6 on page 20 of appellant's arguments, appellant asserts that Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious

Art Unit: 2621

to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Furthermore, both Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

Regarding the second paragraph on page 20 to the first paragraph on page 21 of appellant's arguments, again, appellant argues that Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3. In addition, both Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

**Claim 4**

Regarding lines 9-14 on page 22 of appellant's arguments about claim 1, appellant contends that Chen does not disclose "a second step of converting of the decoded data, wherein, for a coded pixel group to be converted, if the decoding mode is of the "inter" type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group". The examiner respectfully disagrees. Chen's column 11, lines 9-14 teach the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the switch 325 is activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Thus, Chen teaches "if the mode of coding used is of the 'inter' type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group."

Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step

Art Unit: 2621

of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3. Thus, the combination of Chen and Lim teaches "a second step of converting of the decoded data, wherein, for a coded pixel group to be converted, if the decoding mode is of the "inter" type with no residue, the conversion is performed by a copy of a converted pixel group of a preceding image linked by the motion vector associated with said coded pixel group".

Regarding lines 3-5 on page 23 of appellant's arguments, appellant states that Chen does not disclose "a second step of converting of the decoded data". The examiner respectfully disagrees. Chen discloses the format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0. Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it

Art Unit: 2621

would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Regarding lines 12-14 on page 23 of appellant's arguments, appellant asserts that Chen fails to disclose copying a previously converted group of pixels. The examiner respectfully disagrees. Chen's column 11, lines 9-14 teach the determination of coding mode is performed in that intra-coding or inter-coding are the two coding modes used, as illustrated in Chen's figure 3. In Chen's figure 3, the switch 325 is activated to let the image data go through to the adder 330, and that the switch 327 is activated to let the image data to go through adder 345 for performing the conversion by copying a converted pixel group of a preceding image. Note the preceding image, compensated in chroma compensators 320 and 325, is linked by motion vector MV associated with the coded pixel group 4:2:2. The format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data from format 4:2:0.

Regarding lines 17-18 on page 23 of appellant's arguments, appellant states that Chen does not disclose "a second step of converting of the decoded data". The examiner respectfully disagrees. Chen discloses the format conversion is done from 4:2:2 to 4:2:0, as clearly illustrated in figure 3, where the image data enters element 305 as image data from format 4:2:2, and, the image data exits element 395 as image data



Art Unit: 2621

from format 4:2:0. Chen does not specifically disclose the limitation of comprising a first step for decoding the coded data and then the second step of converting of the decoded data. However, Lim's figure 9 specifically discloses that element 92 performing the first step of decoding the coded data, and then, note the second step of performing the format conversion of data at element 93. Thus, Lim teaches there is a first step of decoding the coded data and then the second step of converting the data. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Regarding lines 16-20 on page 24 of appellant's arguments, appellant argues that Chen and Lim are both fundamentally different from the present invention. The examiner respectfully disagrees. Both Chen and Lim pertain to the implementation of the MPEG video encoding/decoding environment, as well as the present invention that also pertains to the same MPEG video encoding/decoding ambiance.

Regarding lines 21-22 on page 24 of appellant's arguments, asserts that Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

Art Unit: 2621

See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3.

Furthermore, both Chen and Lim pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

Regarding line 1 on page 25 to line 8 on page 26 of appellant's arguments, again, appellant argues that Chen and Lim are not combinable. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Lim together as a whole for providing an improved visual quality at the decoding terminal for viewing at the television display, as disclosed in Lim's column 5, lines 1-3. In addition, both Chen and Lim pertain to the same MPEG video

Art Unit: 2621

encoding/decoding environment, and thus, the teachings of Chen and Lim are reasonably combinable.

Regarding lines 14-19 on page 26 of appellant's arguments, appellant states neither Kato, Chen nor Lim disclose the limitations of claim 4, "data are coded according to the MPEG standard, the pixel group is a macroblock and said coding mode is determined from the "skipped macroblock" or "uncoded" mode. The examiner respectfully disagrees. In column 4, lines 34-38 and column 8, lines 38-41, Chen discloses the image data is coded by MPEG and identification of macroblock type. Chen and Lim do not specifically disclose the coding mode is determined from the "skipped macroblock" or "uncoded" mode. However, Kato's column 24, lines 35-53 teach the coding mode is determined from the "skipped macroblock" or "uncoded" mode. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen, Lim and Kato, as a whole, for implementing a simpler, less complex process of accurately determining the coding mode so as to produce clear, high quality images, as disclosed in Kato's column 12, lines 38-55. Thus, claim 4 is rejected for at least the same reasons as claim 1 as explained above.

Moreover, Chen, Lim and Kato pertain to the same MPEG video encoding/decoding environment, and thus, the teachings of Chen, Lim and Kato are reasonably combinable.

Regarding lines 9-12 on page 27 of appellant's arguments, appellant states that the combination of Chen, Lim and Kato would not disclose the present invention. The examiner respectfully disagrees. In response to applicant's arguments against the

Art Unit: 2621

references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chen and Kato, as a whole, for implementing a simpler, less complex process of accurately determining the coding mode so as to produce clear, high quality images, as disclosed in Kato's column 12, lines 38-55.

Art Unit: 2621

Thus, the above statements applied to claim 1 also apply to claim 4.

In conclusion, the combination of Chen and Lim are deemed to be reasonable and valid because of all of the reasons presented above.

**(11) Evidence on Appeal**

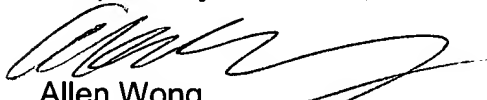
None. There is no Evidence on Appeal.

**(12) Related Proceeding(s) Appendix**

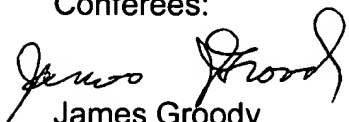
No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

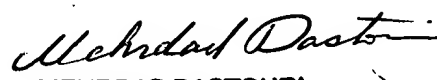
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